

**WHAT IS CLAIMED IS:**

- 1.) A lubricant composition for use in compression refrigeration and air conditioning, comprising:
- 5           (a) at least one lubricant selected from the group consisting of paraffins, napthenes, aromatics and poly- $\alpha$ -olefins;
- (b) at least one compatibilizer selected from the group consisting of:
- 10           (i) polyoxyalkylene glycol ethers represented by the formula  $R^1[(OR^2)_xOR^3]_y$ , wherein: x is selected from integers from 1 to 3; y is selected from integers from 1 to 4;  $R^1$  is selected from hydrogen and aliphatic hydrocarbon radicals having 1 to 6 carbon atoms and y bonding sites;  $R^2$  is selected from aliphatic hydrocarbylene radicals having from 2 to 4 carbon atoms;  $R^3$  is selected from hydrogen, and aliphatic and alicyclic hydrocarbon radicals having from 1 to 6 carbon atoms; at least one of  $R^1$  and  $R^3$  is selected from said hydrocarbon radicals; and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 100 to about 300 atomic mass units and a carbon to oxygen ratio of from about 2.3 to about 5.0;
- 15           (ii) amides represented by the formulae  $R^1CONR^2R^3$  and cyclo-[ $R^4CON(R^5)-$ ], wherein  $R^1$ ,  $R^2$ ,  $R^3$  and  $R^5$  are independently selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms;  $R^4$  is selected from aliphatic hydrocarbylene radicals having from 3 to 12 carbon atoms; and wherein said amides have a molecular weight of from about 120 to about 300 atomic mass units and a carbon to oxygen ratio of from about 7 to about 20,
- 20           (iii) ketones represented by the formula  $R^1COR^2$ , wherein  $R^1$  and  $R^2$  are independently selected from aliphatic, alicyclic and aryl hydrocarbon radicals having from 1 to 12 carbon atoms, and wherein said ketones have a molecular weight of from about 70 to about 300 atomic mass units and a carbon to oxygen ratio of from about 4 to about 13,
- 25           (iv) nitriles represented by the formula  $R^1CN$ , wherein  $R^1$  is selected from aliphatic, alicyclic or aryl hydrocarbon radicals having from 5 to 12 carbon atoms, and wherein said nitriles have a molecular weight of from about 90 to about 200 atomic mass units and a carbon to nitrogen ratio of from about 6 to about 12,

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- (v) chlorocarbons represented by the formula  $RCl_x$ , wherein; x is selected from the integers 1 or 2; R is selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; and wherein said chlorocarbons have a molecular weight of from about 100 to about 200 atomic mass units and carbon to chlorine ratio from about 2 to about 10,
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- (vi) aryl ethers represented by the formula  $R^1OR^2$ , wherein:  $R^1$  is selected from aryl hydrocarbon radicals having from 6 to 12 carbon atoms;  $R^2$  is selected from aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms; and wherein said aryl ethers have a molecular weight of from about 100 to about 150 atomic mass units and a carbon to oxygen ratio of from about 4 to about 20,
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- (vii) 1,1,1-trifluoroalkanes represented by the formula  $CF_3R^1$ , wherein  $R^1$  is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms; and
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- (viii) fluoroethers represented by the formula  $R^1OCF_2CF_2H$ , wherein  $R^1$  is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms; and  
wherein the weight ratio of said lubricant to said compatibilizer is from about 99:1 to about 1:1.
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- 2.) A refrigerant composition for use in compression refrigeration and air conditioning, comprising:
- (a) at least one halogenated hydrocarbon selected from the group consisting of hydrofluorocarbons and hydrochlorofluorocarbons;
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- (b) at least one lubricant selected from the group consisting of paraffins, napthenes, aromatics and poly- $\alpha$ -olefins; and
- (c) at least one compatibilizer selected from the group consisting of:
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- (i) polyoxyalkylene glycol ethers represented by the formula  $R^1[(OR^2)_xOR^3]_y$ , wherein: x is selected from integers from 1 to 3; y is selected from integers from 1 to 4;  $R^1$  is selected from hydrogen and aliphatic hydrocarbon radicals having 1 to 6 carbon atoms and y bonding sites;  $R^2$  is selected from aliphatic hydrocarbylene radicals having from 2 to 4 carbon atoms;  $R^3$  is selected from hydrogen, and aliphatic and alicyclic hydrocarbon radicals having from 1 to 6 carbon atoms; at least one of  $R^1$  and  $R^3$  is selected from said hydrocarbon radicals; and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about

- 100 to about 300 atomic mass units and a carbon to oxygen ratio of from about 2.3 to about 5.0;
- (ii) amides represented by the formulae  $R^1CONR^2R^3$  and cyclo-[ $R^4CON(R^5)-$ ], wherein  $R^1$ ,  $R^2$ ,  $R^3$  and  $R^5$  are independently selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms;  $R^4$  is selected from aliphatic hydrocarbylene radicals having from 3 to 12 carbon atoms; and wherein said amides have a molecular weight of from about 120 to about 300 atomic mass units and a carbon to oxygen ratio of from about 7 to about 20,
- (iii) ketones represented by the formula  $R^1COR^2$ , wherein  $R^1$  and  $R^2$  are independently selected from aliphatic, alicyclic and aryl hydrocarbon radicals having from 1 to 12 carbon atoms, and wherein said ketones have a molecular weight of from about 70 to about 300 atomic mass units and a carbon to oxygen ratio of from about 4 to about 13,
- (iv) nitriles represented by the formula  $R^1CN$ , wherein  $R^1$  is selected from aliphatic, alicyclic or aryl hydrocarbon radicals having from 5 to 12 carbon atoms, and wherein said nitriles have a molecular weight of from about 90 to about 200 atomic mass units and a carbon to nitrogen ratio of from about 6 to about 12,
- (v) chlorocarbons represented by the formula  $RCl_x$ , wherein;  $x$  is selected from the integers 1 or 2;  $R$  is selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; and wherein said chlorocarbons have a molecular weight of from about 100 to about 200 atomic mass units and carbon to chlorine ratio from about 2 to about 10,
- (vi) aryl ethers represented by the formula  $R^1OR^2$ , wherein:  $R^1$  is selected from aryl hydrocarbon radicals having from 6 to 12 carbon atoms;  $R^2$  is selected from aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms; and wherein said aryl ethers have a molecular weight of from about 100 to about 150 atomic mass units and a carbon to oxygen ratio of from about 4 to about 20,
- (vii) 1,1,1-trifluoroalkanes represented by the formula  $CF_3R^1$ , wherein  $R^1$  is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms; and
- (viii) fluoroethers represented by the formula  $R^1OCF_2CF_2H$ , wherein  $R^1$  is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms; and

wherein the weight ratio of said lubricant to said compatibilizer is from about 99:1 to about 1:1.

- 3.) A refrigerant composition for use in compression refrigeration and air  
5 conditioning apparatus containing paraffinic, napthenic, aromatic and/or poly- $\alpha$ -olefinic lubricant, said refrigerant composition comprising:  
(a) at least one halogenated hydrocarbon selected from the group consisting of hydrofluorocarbons and hydrochlorofluorocarbons; and  
(b) at least one compatibilizer selected from the group consisting of:  
10 (i) polyoxyalkylene glycol ethers represented by the formula  $R^1[(OR^2)_xOR^3]_y$ , wherein: x is selected from integers from 1 to 3; y is selected from integers from 1 to 4;  $R^1$  is selected from hydrogen and aliphatic hydrocarbon radicals having 1 to 6 carbon atoms and y bonding sites;  $R^2$  is selected from aliphatic hydrocarbylene radicals having from 2 to 4 carbon atoms;  $R^3$  is selected from hydrogen, and aliphatic and alicyclic hydrocarbon radicals having from 1 to 6 carbon atoms; at least one of  $R^1$  and  $R^3$  is selected from said hydrocarbon radicals; and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 100 to about 300 atomic mass units and a carbon to oxygen ratio of from about 2.3 to about 5.0;  
15 (ii) amides represented by the formulae  $R^1CONR^2R^3$  and cyclo-[ $R^4CON(R^5)-$ ], wherein  $R^1$ ,  $R^2$ ,  $R^3$  and  $R^5$  are independently selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms;  $R^4$  is selected from aliphatic hydrocarbylene radicals having from 3 to 12 carbon atoms; and wherein said amides have a molecular weight of from about 120 to about 300 atomic mass units and a carbon to oxygen ratio of from about 7 to about 20,  
20 (iii) ketones represented by the formula  $R^1COR^2$ , wherein  $R^1$  and  $R^2$  are independently selected from aliphatic, alicyclic and aryl hydrocarbon radicals having from 1 to 12 carbon atoms, and wherein said ketones have a molecular weight of from about 70 to about 300 atomic mass units and a carbon to oxygen ratio of from about 4 to about 13,  
25 (iv) nitriles represented by the formula  $R^1CN$ , wherein  $R^1$  is selected from aliphatic, alicyclic or aryl hydrocarbon radicals having from 5 to 12 carbon atoms, and wherein said nitriles have a molecular weight of

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- from about 90 to about 200 atomic mass units and a carbon to nitrogen ratio of from about 6 to about 12,
- 5                 (v) chlorocarbons represented by the formula  $RCl_x$ , wherein; x is selected from the integers 1 or 2; R is selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; and wherein said chlorocarbons have a molecular weight of from about 100 to about 200 atomic mass units and carbon to chlorine ratio from about 2 to about 10,
- 10                 (vi) aryl ethers represented by the formula  $R^1OR^2$ , wherein:  $R^1$  is selected from aryl hydrocarbon radicals having from 6 to 12 carbon atoms;  $R^2$  is selected from aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms; and wherein said aryl ethers have a molecular weight of from about 100 to about 150 atomic mass units and a carbon to oxygen ratio of from about 4 to about 20,
- 15                 (vii) 1,1,1-trifluoroalkanes represented by the formula  $CF_3R^1$ , wherein  $R^1$  is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms; and
- 20                 (viii) fluoroethers represented by the formula  $R^1OCF_2CF_2H$ , wherein  $R^1$  is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms.
- 20     4.) A process for returning lubricant from a non-compressor zone to a compressor zone in a compression refrigeration system comprising:
- 25         (a) contacting a lubricant selected from the group consisting of paraffins, naphthenes, aromatics, and polyalphaolefins, in said non-compressor zone with a halogenated hydrocarbon selected from the group consisting of hydrofluorocarbons and hydrochlorofluorocarbons, in the presence of a compatibilizer to form a solution comprising said lubricant, said halogenated hydrocarbon, and said compatibilizer; and
- 30         (b) transferring said solution from said non-compressor zone to said compressor zone of said refrigeration system; wherein said compatibilizer is selected from the group consisting of:
- 35                 (i) polyoxyalkylene glycol ethers represented by the formula  $R^1[(OR^2)_xOR^3]_y$ , wherein: x is selected from integers from 1 to 3; y is selected from integers from 1 to 4;  $R^1$  is selected from hydrogen and aliphatic hydrocarbon radicals having 1 to 6 carbon atoms and y bonding sites;  $R^2$  is selected from aliphatic hydrocarbylene radicals having from 2

to 4 carbon atoms; R<sup>3</sup> is selected from hydrogen, and aliphatic and alicyclic hydrocarbon radicals having from 1 to 6 carbon atoms; at least one of R<sup>1</sup> and R<sup>3</sup> is selected from said hydrocarbon radicals; and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 100 to about 300 atomic mass units and a carbon to oxygen ratio of from about 2.3 to about 5.0;

(ii) amides represented by the formulae R<sup>1</sup>CONR<sup>2</sup>R<sup>3</sup> and cyclo-[R<sup>4</sup>CON(R<sup>5</sup>)-], wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>5</sup> are independently selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; R<sup>4</sup> is selected from aliphatic hydrocarbylene radicals having from 3 to 12 carbon atoms; and wherein said amides have a molecular weight of from about 120 to about 300 atomic mass units and a carbon to oxygen ratio of from about 7 to about 20,

(iii) ketones represented by the formula R<sup>1</sup>COR<sup>2</sup>, wherein R<sup>1</sup> and R<sup>2</sup> are independently selected from aliphatic, alicyclic and aryl hydrocarbon radicals having from 1 to 12 carbon atoms, and wherein said ketones have a molecular weight of from about 70 to about 300 atomic mass units and a carbon to oxygen ratio of from about 4 to about 13,

(iv) nitriles represented by the formula R<sup>1</sup>CN, wherein R<sup>1</sup> is selected from aliphatic, alicyclic or aryl hydrocarbon radicals having from 5 to 12 carbon atoms, and wherein said nitriles have a molecular weight of from about 90 to about 200 atomic mass units and a carbon to nitrogen ratio of from about 6 to about 12,

(v) chlorocarbons represented by the formula RCl<sub>x</sub>, wherein; x is selected from the integers 1 or 2; R is selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; and wherein said chlorocarbons have a molecular weight of from about 100 to about 200 atomic mass units and carbon to chlorine ratio from about 2 to about 10,

(vi) aryl ethers represented by the formula R<sup>1</sup>OR<sup>2</sup>, wherein: R<sup>1</sup> is selected from aryl hydrocarbon radicals having from 6 to 12 carbon atoms; R<sup>2</sup> is selected from aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms; and wherein said aryl ethers have a molecular weight of from about 100 to about 150 atomic mass units and a carbon to oxygen ratio of from about 4 to about 20,

- (vii) 1,1,1-trifluoroalkanes represented by the formula  $\text{CF}_3\text{R}^1$ ,  
wherein  $\text{R}^1$  is selected from aliphatic and alicyclic hydrocarbon radicals  
having from about 5 to about 15 carbon atoms; and
- (viii) fluoroethers represented by the formula  $\text{R}^1\text{OCF}_2\text{CF}_2\text{H}$ ,  
5 wherein  $\text{R}^1$  is selected from aliphatic and alicyclic hydrocarbon radicals  
having from about 5 to about 15 carbon atoms; and  
wherein the weight ratio of said lubricant to said compatibilizer is from about 99:1  
to about 1:1.
- 10 5.) A method of solubilizing a halogenated hydrocarbon refrigerant selected  
from the group consisting of hydrofluorocarbons and hydrochlorofluorocarbons,  
in a lubricant selected from the group consisting of paraffins, naphthenes,  
aromatics, and polyalphaolefins, which comprises the steps of contacting said  
lubricant with said halogenated hydrocarbon refrigerant in the presence of an  
15 effective amount of a compatibilizer and forming a solution of said lubricant and  
said halogenated hydrocarbon refrigerant, wherein said compatibilizer is selected  
from the group consisting of:
- (i) polyoxyalkylene glycol ethers represented by the formula  
 $\text{R}^1[(\text{OR}^2)_x\text{OR}^3]_y$ , wherein: x is selected from integers from 1 to 3; y is selected  
20 from integers from 1 to 4;  $\text{R}^1$  is selected from hydrogen and aliphatic hydrocarbon  
radicals having 1 to 6 carbon atoms and y bonding sites;  $\text{R}^2$  is selected from  
aliphatic hydrocarbylene radicals having from 2 to 4 carbon atoms;  $\text{R}^3$  is selected  
from hydrogen, and aliphatic and alicyclic hydrocarbon radicals having from 1 to  
6 carbon atoms; at least one of  $\text{R}^1$  and  $\text{R}^3$  is selected from said hydrocarbon  
25 radicals; and wherein said polyoxyalkylene glycol ethers have a molecular weight  
of from about 100 to about 300 atomic mass units and a carbon to oxygen ratio of  
from about 2.3 to about 5.0;
- (ii) amides represented by the formulae  $\text{R}^1\text{CONR}^2\text{R}^3$  and cyclo-  
[ $\text{R}^4\text{CON}(\text{R}^5)-$ ], wherein  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^3$  and  $\text{R}^5$  are independently selected from  
30 aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms;  $\text{R}^4$   
is selected from aliphatic hydrocarbylene radicals having from 3 to 12 carbon  
atoms; and wherein said amides have a molecular weight of from about 120 to  
about 300 atomic mass units and a carbon to oxygen ratio of from about 7 to about  
20,
- (iii) ketones represented by the formula  $\text{R}^1\text{COR}^2$ , wherein  $\text{R}^1$  and  $\text{R}^2$   
are independently selected from aliphatic, alicyclic and aryl hydrocarbon radicals

having from 1 to 12 carbon atoms, and wherein said ketones have a molecular weight of from about 70 to about 300 atomic mass units and a carbon to oxygen ratio of from about 4 to about 13,

- (iv) nitriles represented by the formula  $R^1CN$ , wherein  $R^1$  is selected from aliphatic, alicyclic or aryl hydrocarbon radicals having from 5 to 12 carbon atoms, and wherein said nitriles have a molecular weight of from about 90 to about 200 atomic mass units and a carbon to nitrogen ratio of from about 6 to about 12,

- (v) chlorocarbons represented by the formula  $RCl_x$ , wherein;  $x$  is selected from the integers 1 or 2;  $R$  is selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; and wherein said chlorocarbons have a molecular weight of from about 100 to about 200 atomic mass units and carbon to chlorine ratio from about 2 to about 10,

- (vi) aryl ethers represented by the formula  $R^1OR^2$ , wherein:  $R^1$  is selected from aryl hydrocarbon radicals having from 6 to 12 carbon atoms;  $R^2$  is selected from aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms; and wherein said aryl ethers have a molecular weight of from about 100 to about 150 atomic mass units and a carbon to oxygen ratio of from about 4 to about 20,

- (vii) 1,1,1-trifluoroalkanes represented by the formula  $CF_3R^1$ , wherein  $R^1$  is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms; and

- (viii) fluoroethers represented by the formula  $R^1OCF_2CF_2H$ , wherein  $R^1$  is selected from aliphatic and alicyclic hydrocarbon radicals having from about 5 to about 15 carbon atoms; and wherein the weight ratio of said lubricant to said compatibilizer is from about 99:1 to about 1:1.

- 6.) A method of lubricating a compressor in a compression refrigeration apparatus containing a halogenated hydrocarbon refrigerant selected from the group consisting of hydrofluorocarbons and hydrochlorofluorocarbons,  
30 comprising the step of adding to said compressor a composition comprising:

- (a) at least one lubricant selected from the group consisting of paraffins, naphthenes, aromatics, and polyalphaolefins; and  
(b) at least one compatibilizer selected from the group consisting of:  
(i) polyoxyalkylene glycol ethers represented by the formula  
35  $R^1[(OR^2)_xOR^3]_y$ , wherein:  $x$  is selected from integers from 1 to 3;  $y$  is selected from integers from 1 to 4;  $R^1$  is selected from hydrogen and

aliphatic hydrocarbon radicals having 1 to 6 carbon atoms and y bonding sites; R<sup>2</sup> is selected from aliphatic hydrocarbylene radicals having from 2 to 4 carbon atoms; R<sup>3</sup> is selected from hydrogen, and aliphatic and alicyclic hydrocarbon radicals having from 1 to 6 carbon atoms; at least one of R<sup>1</sup> and R<sup>3</sup> is selected from said hydrocarbon radicals; and wherein said polyoxyalkylene glycol ethers have a molecular weight of from about 100 to about 300 atomic mass units and a carbon to oxygen ratio of from about 2.3 to about 5.0;

(ii) amides represented by the formulae R<sup>1</sup>CONR<sup>2</sup>R<sup>3</sup> and cyclo-[R<sup>4</sup>CON(R<sup>5</sup>)-], wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>5</sup> are independently selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; R<sup>4</sup> is selected from aliphatic hydrocarbylene radicals having from 3 to 12 carbon atoms; and wherein said amides have a molecular weight of from about 120 to about 300 atomic mass units and a carbon to oxygen ratio of from about 7 to about 20,

(iii) ketones represented by the formula R<sup>1</sup>COR<sup>2</sup>, wherein R<sup>1</sup> and R<sup>2</sup> are independently selected from aliphatic, alicyclic and aryl hydrocarbon radicals having from 1 to 12 carbon atoms, and wherein said ketones have a molecular weight of from about 70 to about 300 atomic mass units and a carbon to oxygen ratio of from about 4 to about 13,

(iv) nitriles represented by the formula R<sup>1</sup>CN, wherein R<sup>1</sup> is selected from aliphatic, alicyclic or aryl hydrocarbon radicals having from 5 to 12 carbon atoms, and wherein said nitriles have a molecular weight of from about 90 to about 200 atomic mass units and a carbon to nitrogen ratio of from about 6 to about 12,

(v) chlorocarbons represented by the formula RCl<sub>x</sub>, wherein; x is selected from the integers 1 or 2; R is selected from aliphatic and alicyclic hydrocarbon radicals having from 1 to 12 carbon atoms; and wherein said chlorocarbons have a molecular weight of from about 100 to about 200 atomic mass units and carbon to chlorine ratio from about 2 to about 10,

(vi) aryl ethers represented by the formula R<sup>1</sup>OR<sup>2</sup>, wherein: R<sup>1</sup> is selected from aryl hydrocarbon radicals having from 6 to 12 carbon atoms; R<sup>2</sup> is selected from aliphatic hydrocarbon radicals having from 1 to 4 carbon atoms; and wherein said aryl ethers have a molecular weight of from about 100 to about 150 atomic mass units and a carbon to oxygen ratio of from about 4 to about 20,

- (vii) 1,1,1-trifluoroalkanes represented by the formula  $\text{CF}_3\text{R}^1$ ,  
wherein  $\text{R}^1$  is selected from aliphatic and alicyclic hydrocarbon radicals  
having from about 5 to about 15 carbon atoms; and
- (viii) fluoroethers represented by the formula  $\text{R}^1\text{OCF}_2\text{CF}_2\text{H}$ ,  
5 wherein  $\text{R}^1$  is selected from aliphatic and alicyclic hydrocarbon radicals  
having from about 5 to about 15 carbon atoms; and  
wherein the weight ratio of said lubricant to said compatibilizer is from about 99:1  
to about 1:1.
- 10 7.) The composition of claims 1, 2 or 3, or the process of claim 4, or the method  
of claim 5 or 6, wherein:
- (i) in the polyoxyalkylene glycol ethers represented by the formula  
 $\text{R}^1[(\text{OR}^2)_x\text{OR}^3]_y$ ,  $x$  is selected from the integers 1 or 2,  $y$  is 1,  $\text{R}^1$  and  $\text{R}^3$  are  
independently selected from hydrogen and aliphatic hydrocarbon radicals having  
15 from 1 to 4 carbon atoms,  $\text{R}^2$  is selected from aliphatic hydrocarbylene radicals  
having 2 or 3 carbon atoms, and wherein said polyoxyalkylene glycol ethers have  
a molecular weight of from about 100 to about 250 atomic mass units and a  
carbon to oxygen ratio of from about 2.5 to about 4.0;
- (ii) said amides have a molecular weight of from about 160 to about  
20 250 atomic mass units and a carbon to oxygen ratio of from about 7 to about 16;
- (iii) in the ketones represented by the formula  $\text{R}^1\text{COR}^2$ ,  $\text{R}^1$  and  $\text{R}^2$  are  
independently selected from aliphatic and alicyclic hydrocarbon radicals having  
from 1 to 9 carbon atoms, and wherein said ketones have a molecular weight of  
from about 100 to 200 atomic mass units and a carbon to oxygen ratio of from  
25 about 7 to about 10;
- (iv) in the nitriles represented by the formula  $\text{R}^1\text{CN}$ ,  $\text{R}^1$  is selected  
from aliphatic and alicyclic hydrocarbon radicals having from 8 to 10 carbon  
atoms, and wherein said nitriles have a molecular weight of from about 120 to  
about 140 atomic mass units and a carbon to nitrogen ratio of from about 8 to  
30 about 9;
- (v) said chlorocarbons have a molecular weight of from about 120 to  
150 atomic mass units and a carbon to chlorine ratio of from about 6 to about 7;  
and
- (vi) said aryl ethers have a carbon to oxygen ratio of from about 7 to  
35 about 10.

- 8.) The composition of claims 2 or 3, or the process of claim 4 , or the method of  
claim 5 or 6, wherein in the polyoxyalkylene glycol ethers represented by the  
formula  $R^1[(OR^2)_xOR^3]_y$ , x is selected from the integers 1 or 2, y is 1,  $R^1$  and  $R^3$   
are independently selected from hydrogen and aliphatic hydrocarbon radicals  
5 having from 1 to 4 carbon atoms,  $R^2$  is selected from aliphatic hydrocarbylene  
radicals having 3 carbon atoms, and wherein said polyoxyalkylene glycol ethers  
have a molecular weight of from about 125 to about 250 atomic mass units and a  
carbon to oxygen ratio of from about 2.5 to 4.0 when said halogenated  
hydrocarbon consists of hydrofluorocarbons, and a carbon to oxygen ratio of from  
10 about 3.5 to 5.0 when said halogenated hydrocarbon comprises at least one  
hydrochlorofluorocarbon.
- 9.) The composition of claims 1, 2 or 3, or the process of claim 4 , or the method  
of claim 5 or 6, wherein said amides are represented by the formula cyclo-  
15  $[(CR^6R^7)_nCON(R^5)-]$ , wherein n is selected from integers from 3 to 5,  $R^6$  and  $R^7$   
are hydrogen or contain a single saturated hydrocarbon radical among the n  
methylene units, and  $R^5$  is selected from saturated hydrocarbon radicals  
containing from 1 to 12 carbon atoms, and where said amides have a molecular  
weight of from about 160 to about 250 atomic mass units and a carbon to oxygen  
20 ratio of from about 7 to about 16.
- 10.) A method for delivering a compatibilizer to a compression refrigeration  
apparatus, comprising the step of adding the composition of claim 3 to said  
apparatus.
- 25 11.) The composition of claims 1, 2 or 3, or the process of claim 4 , or the method  
of claim 5 or 6, optionally comprising an effective amount of a fragrance.